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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/058,657 | 01/28/2002 | Toshihiko Suenaga | SIW-031 | 3863 |
| 959 | 7590 | 12/01/2004 | EXAMINER | |
| LAHIVE & COCKFIELD, LLP. 28 STATE STREET BOSTON, MA 02109 | | | DOVE, TRACY MAE | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1745 | |

DATE MAILED: 12/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/058,657

Applicant(s)

SUENAGA ET AL.

Examiner

Tracy Dove

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 September 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 10-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

This Office Action is in response to the communication filed on 9/17/04. Applicant's arguments have been considered, but are not persuasive. Claims 1-19 are pending. Claims 10-19 are withdrawn as being directed toward a non-elected invention. This Action is non-FINAL.

Election/Restrictions

Applicant's election of 3/12/04 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-9 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for an insulating picture frame-shaped member attached to a single separator, does not reasonably provide enablement for an insulating picture frame-shaped member attached to more than one separator. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make or use the invention commensurate in scope with these claims. As clearly shown in at least Figures 2-15, a separate picture frame-shaped member (61, 81, 91, etc.) is attached to each separator 3.

Claim 5 is similarly rejected for reciting "wherein peripheral end surfaces of said separators are covered by said picture frame-shaped member".

*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites “outsides of a pair of electrodes”, which is unclear. The claim further recites “during movement thereof”, which is unclear. It is unclear if “thereof” is referring to the frame-shaped member or the separators. Claim 1 further recites “sealed by a seal comprising said picture frame-shaped member”, which is unclear because the seal does not appear to *comprise* the picture frame-shaped member. Applicant may not use the terms “seal” and “picture frame-shaped member” to refer to the same element of the claimed fuel cell. As clearly shown in the Figures (i.e., Figure 2), the seal members 51, 53 are not located at an outer edge of the separators.

Claim 1 recites the limitation “said separator” in the last line. There is insufficient antecedent basis for this limitation in the claim.

Claim 2 recites “said picture frame-shaped member is constituted so as to be able to slide relative to each other and seal said sealing space”, which is confusing and unclear. If there is only one picture frame-shaped member, it is unclear what slides relative to each other. Furthermore, there is insufficient antecedent basis for “said sealing space”.

Claim 3 recites “said picture frame-shaped member is formed of a hard material and an elastic material”, which improperly broadens claim 1 that recites “said picture frame-shaped

member is made of an elastic material". Examiner suggests amending claim 1 to recite "said picture frame-shaped member comprises an elastic material".

Claim 6 recites "a reaction surface peripheral sealing member which surrounds a reaction surface of said separator" and "wherein the outermost portion of said reaction surface peripheral sealing member is covered by an insulating outer edge member", which are confusing and unclear. It is unclear how the sealing member "surrounds" a reaction surface". Furthermore, the separator does not "react" so it is unclear what constitutes "a reaction surface of said separator". It is unclear how the outermost portion of the sealing member is "covered" by an insulating outer edge member. Furthermore, what comprises the "outer edge member"?

Claim 7 recites the limitation "the outermost portion of said separator". There is insufficient antecedent basis for this limitation in the claim. Furthermore, it is unclear how the "insulating outer edge member" covers both the outermost portion of the separator and the reaction surface peripheral sealing member if the outermost portion of the separator is located "exterior" of the reaction surface peripheral sealing member.

Claim 8 recites "wherein a said reaction surface", which is improper claim language. Claim 8 recites the limitation "the adjacent separator". There is insufficient antecedent basis for this limitation in the claim. Claim 8 cannot use the term "said reaction surface peripheral sealing member" to refer to more than one element of the claimed invention. The claim is confusing and unclear and should be rewritten to clearly claim the invention.

Claim 9 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the

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claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Response to Arguments

Applicant's arguments filed 9/17/04 have been fully considered but they are not persuasive. The objection to claim 1 has been withdrawn. However, claims 1-9 have been rejected under 35 U.S.C. 112, 1st and 2nd paragraph.

Clark WO 97/24778

Applicant argues Clark fails to disclose a picture frame-shaped member being disposed on both sides of a separator as recited in claim 1. Clark does not appear to teach this limitation. Applicant further argues the fuel cells disclosed in Clark to not have separators. However, Clark teaches industrial electrolytic or galvanic cells, such as secondary batteries, fuel cells and electrolyzers typically consist of modules which each comprise a number of stacked, layered components which are clamped together in a stack (1:9-13). Fuel cell stacks inherently have separators to separate the individual fuel cells contained in the stack.

Barton WO 99/04446

Applicant argues Barton fails to disclose a picture frame-shaped member being disposed on both sides of a separator as recited in claim 1. Barton does not appear to teach this limitation.

Woods US 5,424,144

Applicant argues Woods fails to disclose a picture frame-shaped member being disposed on both sides of a separator as recited in claim 1. Woods does not appear to teach this limitation.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tracy Dove whose telephone number is 571-272-1285. The examiner can normally be reached on Monday-Thursday (9:00-7:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pat Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Tracy Dove
Patent Examiner
Art Unit 1745

November 26, 2004